Firm Inflation Expectations and the Macroeconomy: Evidence from Thailand

Pym Manopimoke, Nuwat Nookhwun, Tanaporn Sriklay, Tanisa Tawichsri

Bank of Thailand

December, 2025

Abstract

This paper presents new evidence on firms' short-term inflation expectations in Thailand, their key drivers, how they respond to shocks, and if they matter for firms' economic decisions. Based on monthly firm-level survey data from Thailand between 2012 and 2023, we show that expected inflation—though biased and highly dispersed—responds systematically to macroeconomic conditions, particularly global inflation and oil prices. This response is state dependent, with firms exhibiting more attention during periods of higher inflation and stronger economic growth. Moreover, salient global shocks such as oil supply shocks can lead to persistent and upward revisions in inflation expectations, particularly when inflation is high, while domestic shocks such as the minimum wage hike in Thailand during 2012–2013 only had modest and short-lived effects. Finally, we find strong evidence of state-dependence for the influence of firms' inflation expectations on business decisions. Price-setting and employment decisions are only significant in higher inflation episodes, while higher expected inflation drags firms' investment, particularly during periods of lower growth.

Keywords: Firm inflation expectations; Emerging markets; Oil shocks; Minimum wage; Price-setting; Investment; Employment; State-dependence

JEL Codes: E31, D84, O11

Competing interests: The authors declare none. This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Acknowledgment: We thank Michael Weber, Ippei Fujawara and James Yetman for helpful comments. We also thank Pasachanan Chiawphanich for data assistance.

1 Introduction

The anchoring of private agents' inflation expectations has long been regarded as a crucial element to successful monetary policy. Theoretically, inflation expectations influence decisions of agents, not least price- and wage-setting behavior of firms, which in turn matter for overall inflation outcomes and macroeconomic dynamics. However, empirical studies, mostly done for advanced economies with low and stable inflation, often point to firms' inflation expectations that are far from being anchored. There is clear evidence of bias and disagreement in firms' expected inflation found in several countries such as New Zealand, France and the U.S. (Kumar et al., 2015; Savignac et al., 2024; Candia et al., 2024). There are also large, frequent forecast revisions both at the short- and long-term horizons. This may reflect their inattention to aggregate inflation dynamics and monetary policy. Nevertheless, subjective inflation expectations of firms have been found to play a key role in influencing their real decisions, such as their incentive to invest or hire workers (Coibion et al., 2018, 2020).

Understanding how inflation expectations are formed and shape firm decisions in the context of emerging markets (EMs) has been limited. Kose et al. (2019) suggest that anchoring inflation expectations may be even more challenging for EMs given a relatively higher and more volatile inflation environment and lower monetary policy credibility. Inflation dynamics in open-economy EMs, in particular, are highly susceptible to shocks that may originate from both domestic markets and abroad (Aguilar et al., 2024; Mello and Ponce, 2025). At the same time, in light of the global inflation surge in 2022 as a result of the war in Russia and Ukraine, studies have also pointed towards inflation expectations and dynamics being regime-dependent (Weber et al., 2025; Borio et al., 2023). That is, agents pay little attention to inflation dynamics and monetary policy in a low and stable inflation environment, but are more attentive when inflation is high and volatile. This raises another important question of whether the formation of inflation expectations hinges upon the macroeconomic environment.

This paper aims to study inflation expectations in an open-economy EM country, namely Thailand. Similarly to other EMs, Thai households have a large share of food and energy consumption, rendering Thailand's inflation rates highly susceptible to food and energy price shocks. The high degree of trade openness also makes global factors highly relevant to Thailand's inflation dynamics. However, the inflation targeting framework that the country adopted since 2000 has been suggested to help keep inflation in Thailand low and stable, a characteristic that is akin to more

advanced countries. As such, Thailand serves as an interesting case study that can further our understanding on how domestic and global shocks influence the expectation formation, and whether inflation expectations are anchored for an EM that is highly susceptible to volatile shocks.

We leverage a rich monthly survey of Business Sentiment Index that spans 2012–2023 to study drivers of firms' inflation expectations within a rich firm-level panel specification. We examine the impact of both firm-level conditions and various macroeconomic drivers—both domestic and global in nature—on inflation expectations. To better understand whether expectations are anchored, we utilize a local projection model to investigate the dynamic impact of salient shocks such as an oil supply news shock on inflation expectations. We also leverage the large and unexpected minimum wage hike in Thailand during 2012–2013 to examine its dynamic effects on firm inflation expectations by utilizing a difference-in-differences approach. Finally, we adopt a two-step regression to study how inflation expectations influence firms' price-setting, hiring and investment decisions. Throughout our study, we focus on whether different firm characteristics such as size, sector and export orientation, as well as different macroeconomic states as characterized by the output gap and level of the prevailing inflation rate, can give rise to heterogeneous firm responses.

Our main findings are as follows. First, we find that firm inflation expectations in Thailand are biased and dispersed, similar to those in advanced economies. Despite this, firm inflation expectations appear to respond systematically to a range of macroeconomic factors, particularly those of global origins including oil prices and global inflation. This responsiveness is higher during states of a positive output gap and higher levels of inflation, and does not appear to depend on firm characteristics such as size or sector. Next, we find that the dynamic impact of a global oil supply news shock on inflation expectations can be sizable and highly persistent, especially when inflation is higher. This suggests that firms are more attentive in a higher inflation environment, but adverse oil shocks can nonetheless lead to risks of expectations deanchoring. On the other hand, the unexpected event of the large minimum wage hike in 2012–2013 delivered only a modest and short-lasting impact on inflation expectations. Finally, firm inflation expectations matter for firms' price-setting, hiring, and investment decisions, suggesting inflation expectations as an important channel towards driving real economy and inflation outcomes. The influence on these business decisions is again state-dependent. Higher inflation expectations influence firms' price-setting and employment decisions only in higher-inflation episodes, while they drag firms' investment in periods of lower growth.

Our paper contributes to the existing literature in at least three key areas. First, it provides evidence on key characteristics and drivers of firm inflation expectations from the perspective of an EM that is still scarce in the literature. Second, it extends the literature that examines the pass-through of energy shocks to inflation expectations by also incorporating state dependence to better draw implications for firm attention to shocks and expectation anchoring. The closest study to our work is a recent paper by Mello and Ponce (2025), which explores the pass-through of energy price shocks to firms' inflation expectations in Uruguay, and shows that the local energy pricing policy in each period matters for the extent of pass-through. Since a growing literature points out that firms become more attentive to the macroeconomic environment when inflation is higher, (Wehrhöfer, 2023; Bracha and Tang, 2025; Korenok et al., 2022; Pfäuti, 2025; Weber et al., 2025), our work examines the pass-through of salient shocks such as oil price shocks to inflation expectations, and highlights differential impacts between lower and higher inflation episodes. Third, our identification and analyses of the impact of minimum wage shocks on inflation expectations are novel to the literature, which more generally helps our understanding of the wage-price relation.

Finally, this paper contributes to a handful of articles that study how inflation expectations influence firm decisions, which is an important area of research as it has implications for inflation expectations as a driver of economic outcomes. The findings in this strand of literature are mixed. For example, Coibion et al. (2020) utilize randomized controlled trials on Italian firms and show that higher inflation expectations can raise firms' credit demand and incentives to increase their product prices, but reduce their capital and employment. However, the impact can be episodic as firms no longer cut employment during the effective lower bound periods. On the other hand, Gautier et al. (2025) find that the influence on firm decisions becomes rather limited during high-inflation episodes. This paper aims to study the implications of firm expectations on firm price-setting, employment and investment decisions, but further extends this literature by exploring heterogeneity in decisions that may stem from differences in firm characteristics and states of the macroeconomy.

The rest of the paper is organized as follows. Section 2 provides an overview of data and descriptive statistics. Section 3 discusses the empirical model and results on global and local inflation expectation drivers, while Section 4 delves deeper into the dynamic effects of global and local shocks. Section 5 discusses findings on the key role of inflation expectations on firm decisions. Finally, Section 6 summarizes key findings and insights.

2 Data and Stylized Facts

2.1 Firm-level and inflation expectations data

Our main dataset is the Bank of Thailand's Business Sentiment Index (BSI) survey, available at a monthly frequency over 2008M1–2023M12. Over the sample, there are a total of 1,001 firms, and on average, 570 firms respond to the survey each month, leading to a rich dataset of 88,048 firm-month observations.[1] Key characteristics of the firms in our sample are as follows. First, almost half or 49% of the firms are classified as small firms, as the value of their registered capital is less than 50 million baht. Large firms that have more than 200 million baht of capital registered take up a 36% share in the sample, leaving 15% of the firms as medium-sized firms.[2] Second, most firms, or 81%, are located in Bangkok, whereas the remaining 19% are from other regions. Third, firms are spread between various sectors, with the majority or 47% in manufacturing, followed by 45% in services, and the remaining 8% in construction and other sectors. Fourth, most firms in the sample do not trade internationally as 77% of the firms only engage in domestic trade, and 13% of the firms trade only moderately with export share of less than 30%. The remaining 10% of firms have export shares that are greater than 30%. Finally, we observe that a sizable share of firms remain in the sample for a time span of almost ten years, as 495 out of the 1,001 firms in our dataset contain more than 100 observations.

Each month, firms provide information about their one-year-ahead inflation expectations, as well as their views on production costs and sales. They also provide information about their financial position and price-setting, production, employment, and investment decisions. Towards analyzing whether firm views matter when forming inflation expectations, we focus on four specific questions pertaining to their perception and expectation on the economic situation and cost of production. More specifically, firms are asked whether they think i) the economic situation or business turnover this month is better than in the previous month ii) the economic situation or business turnover will improve in the next three months, iii) their cost of production this month increases compared to the previous month, and iv) the cost of production will increase over the next three months.

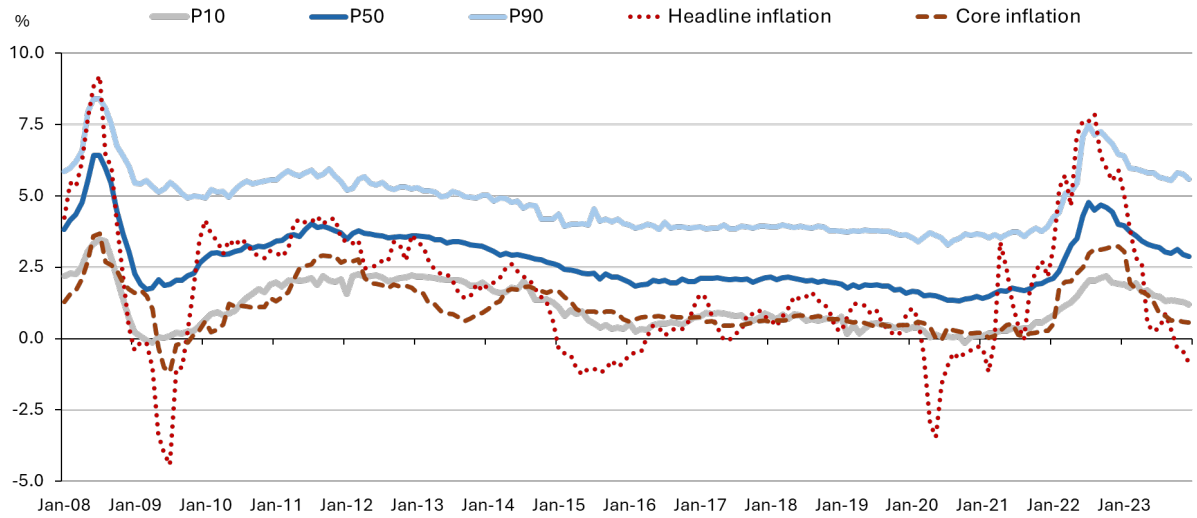
[1] We clean the dataset as follows. First, the full dataset contains 111,014 firm-month observations, but we exclude all observations of firms that did not provide a response for one-year-ahead inflation expectations, leaving 88,450 firm-month observations. Next we exclude firms with too few responses (i.e., under 18 responses), and finally we remove firms whose answers change too infrequently over time (over 90 percent of their responses are the same).

[2] Based on an exchange rate as of 23 October 2025, 50 and 200 million baht equal 1.5 and 6.1 million US dollars, respectively.

The key variable for our analysis is one-year-ahead expected inflation. In the survey, firms are allowed to record how they anticipate an inflation rate in the year ahead based on two types of responses. They can either provide an exact figure, or pick a range based on pre-specified bins. Since most firms opt to answer as a range, inflation expectations in our main analysis are based on the median of the selected bins. However, in our dataset, there is a change in bin size from two to one percent in 2011Q4. To avoid this break, we therefore start our analysis after the change in bin size. As such, respondents pick between a total of nine bins—below 0% or greater than 7%, and the remaining seven bins each with a size of one percent. For robustness checks, we analyze the full dataset but, for expected inflation before 2011Q4, we assign each firm with one of the nine bins that its exact-figure response falls within.

In Figure 1, we show firm inflation expectations by percentiles based on the range responses, alongside a plot of headline and core inflation. Overall, the plot suggests that firms inflation expectations can be rather disperse, as the gap between the 10^{th} and 90^{th} percentiles averages around 3.7 percentage points. As for the level of inflation expectations, the median of range responses for the full sample averaged at 2.8%, higher than actual headline and core inflation, which averaged at around 1.8% and 1.2% respectively. As evident from the graph, one-year-ahead firm inflation expectations can also diverge from actual headline inflation for sustained periods. For example, during the recent disinflation period in late 2022, inflation expectations remained elevated despite a swift decline in headline inflation. Also, while inflation remained persistently low during 2015–2019, firm inflation expectations hovered around a percentage point higher. Widespread dispersion as well as positive bias in firms' inflation expectations are in line with international evidence, such as for the Euro area (Baumann et al., 2024), the U.S. (Candia et al., 2024), and France (Savignac et al., 2024), and have been suggested to signify inattention by firms to actual inflation dynamics and monetary policy, or the lack of inflation expectation anchoring.

Figure 1: Firm Inflation Expectations and Realized Inflation

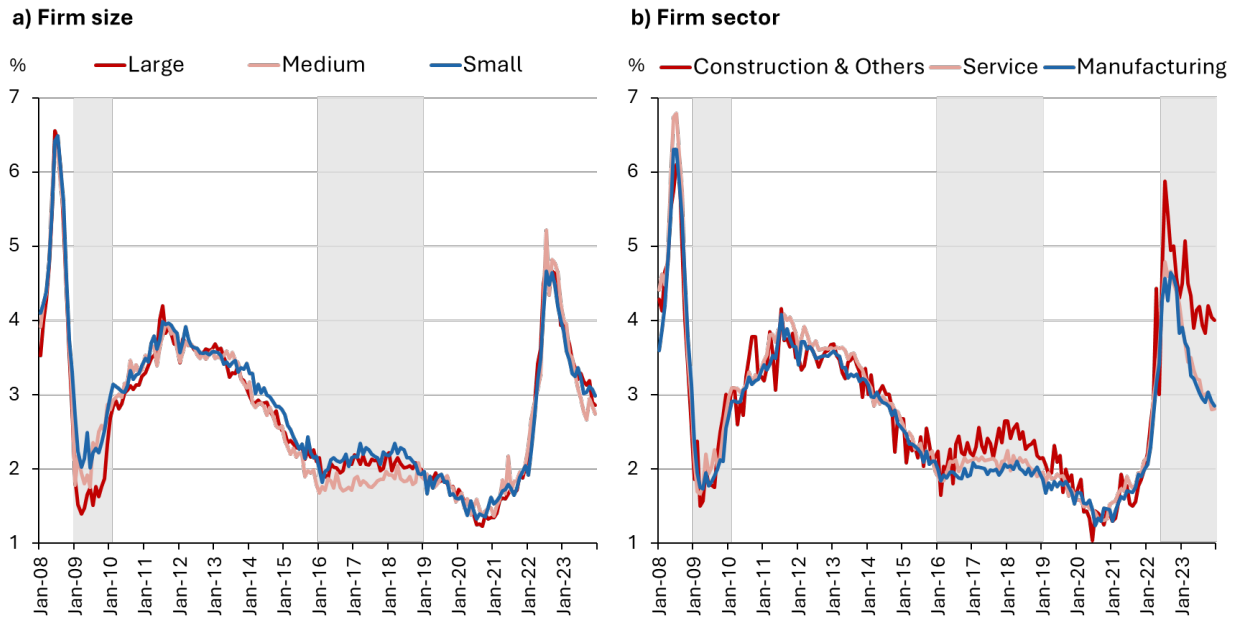


Note: The x-percentile of firm expected inflation is computed based on the following formula: $L_x + \left\{\frac{\frac{x}{100}n - F_x}{f_x}c\right\}$, where L_x refers to the lower bound of the bin that the x-percentile response falls within, F_x represents the cumulative frequency of all responses below the x-percentile bin, c denotes the response bin size, f_x denotes the frequency with which respondents select the x-percentile bin, and n denotes the total number of respondents. Plotted against firm inflation expectations are realized headline and core inflation rates.

Firm inflation expectations have also been suggested to depend on individual firm characteristics. In an earlier study by Kumar et al. (2015), smaller firms in New Zealand tend to perceive lower inflation than large firms. On the contrary, more recent studies, such as Savignac et al. (2024) and Baumann et al. (2024), find that smaller firms tend to have higher expectations than larger firms, reflecting that small firms might have limited information when forming their expectations and are less exposed to international markets. We observe some evidence of this as well, where the median one-year-ahead inflation expectations diverge depending on the size of firms, but only during periods of low inflation. According to Figure 2, median inflation expectations of large firms were lower in 2009, whereas those of medium-sized firms were lower in 2016–2019.[3] Therefore, while we confirm that firm inflation expectations can be attributed to individual firm characteristics, our dataset also displays additional evidence that divergences can depend on the level of inflation as well. In particular, larger divergences between inflation expectations occur when inflation is low, perhaps due to enhanced inattention by firms.

[3]Some authors have also suggested that firms in different sectors can have different inflation expectations (Coibion et al., 2018). We do find some evidence that echoes this finding, as firms in the construction and other sectors have higher inflation expectations compared to firms in the manufacturing and services sectors during the low inflation period in 2016–2019 and the disinflation period in 2022–2024.

Figure 2: Heterogeneity of Firm Inflation Expectations

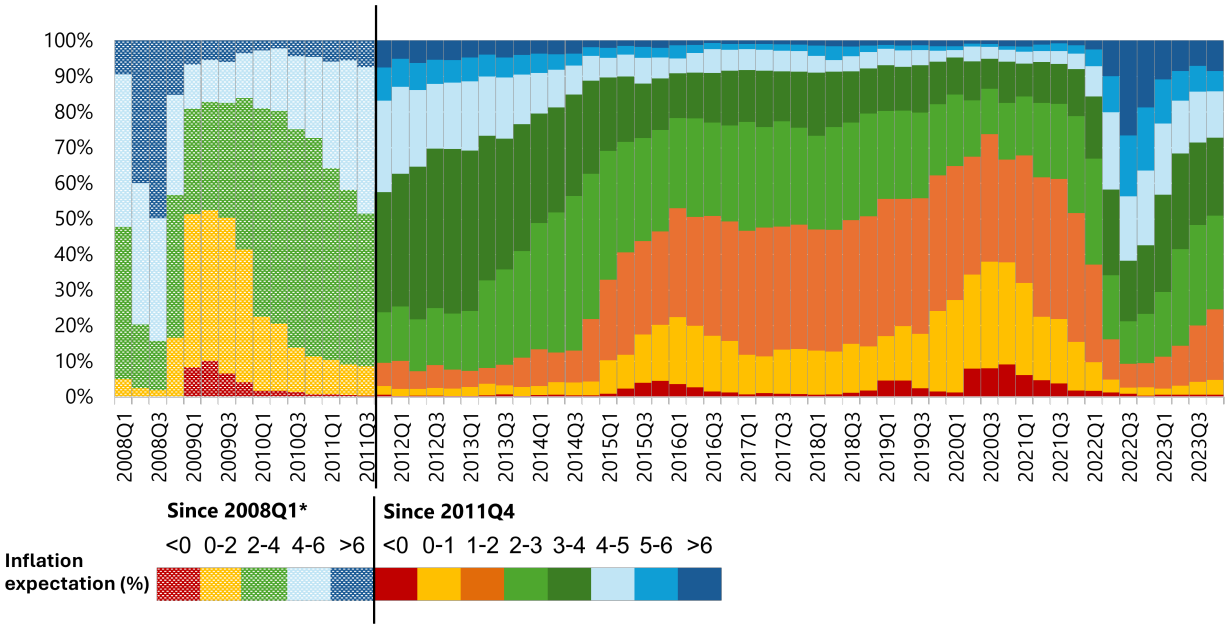


Note: The x-percentile of firms' inflation expectations are computed as: $L_x + \left\{\frac{\frac{x}{100}n - F_x}{f_x}\right\} c$, where L_x refers to the lower bound of the bin that the x-percentile response falls within, F_x represents the cumulative frequency of all responses below the x-percentile bin, c denotes the response bin size, f_x denotes the frequency with which respondents select the x-percentile bin, and n denotes the total number of respondents.

The behavior of firm inflation expectations that differs between lower and higher inflation periods is also evident in the distribution of firm-level inflation expectations, as shown in Figure 3. First, a quick glance at the plot again reiterates that large dispersion exists in firm inflation expectations. A more interesting observation is that there appears to be some differences in the distribution of firm responses depending on the level of inflation. In relatively low inflation periods, that is when inflation was mostly below zero in 2009 as well as during 2015–2019, firms were in large part inattentive to actual inflation as only a very small share of firms responded that they expected inflation to be below zero. In this case, most answers were in the range of 0–2%, but a non-trivial share also expected inflation to be higher, up to around 4% inflation. On the other hand, when inflation surged beyond 6% in 2008 and 2022, more than 20% of the firms reported inflation expectations at higher than 6% in line with actual inflation, and more than half of the sample expected inflation in the year ahead to be greater than 4%. This suggests that during periods of high inflation, firms pay more attention to headline inflation figures compared to the case of lower inflation. As suggested by Kumar et al. (2015) and Candia et al. (2024), inattention of firms to recent inflation as well as

the inflation target set by the Central Bank is characteristic to expectations of firms in advanced economies with a history of low and stable inflation.

Figure 3: Distribution of Firm Inflation Expectations



Note: Plotted above is the frequency (in percent) of surveyed inflation expectations across firms that fall within each response bin in a given quarter.

2.2 Macroeconomic Variables

We utilize several macroeconomic variables to study key drivers of firm inflation expectations. First, domestic price variables include Thailand's monthly headline inflation rate and its key components, consisting of raw food, energy and core inflation components, that are obtained from the Thai Ministry of Commerce. To get a sense of the characteristics of Thai inflation, summary statistics in Table 1 show that, on average, headline inflation in Thailand is rather low at 1.35% over the sample period of 2012–2023. Core inflation is also within the same ballpark at around 1.06%, although it is worth noting that the food-related component of core inflation which includes prepared food, non-alcoholic beverage, seasonings and condiments is significantly higher than the non-food component. Despite low core inflation, energy and raw food inflation have been higher and much more volatile, but were low in certain periods, especially during 2015–2019 from the discovery of global shale oil technology. Headline inflation does exhibit sizable variations, mainly driven by the energy component.

Other domestic variables include year-over-year growth rates of Thailand's real Gross Domestic Product (GDP) obtained from the Office of the National Economic and Social Development Board in Thailand to proxy for real economic activity. Since the GDP data is in quarterly frequency, we use the quarterly values to proxy in for values in each month. On average, the Thai economy grew at a modest rate of 2.4% over the sample, but the data also cover a few episodes of large macroeconomic fluctuations that resulted from the Covid-19 pandemic and the Great Flood in 2011. Another domestic variable that is a potential driver of inflation is the year-over-year change in provincial minimum wages, which typically undergo gradual increases but there are certain periods that also experience sharp jumps. Given that labor shares vary across firms, we also study how minimum wage growth matters towards inflation expectations based on a labor-intensity variable. This aims to capture the firm's exposure to minimum wage hikes, proxied by the share of labor costs relative to total production costs at the industry level (4-digit ISIC). We utilize the Input-Output Table in 2021 provided by the Office of the National Economic and Social Development for calculations. More details on minimum wages in Thailand are provided in the next subsection.

Given that Thailand is a small open economy, global factors, in particular oil prices, can have a large influence on inflation. We include global inflation, calculated as the weighted average of headline inflation for Thailand's top 21 trading partners, based on export share weights that cover approximately 80% of exports in 2023. According to Table 1, global inflation averaged at a rather low level over the sample period studied, similar to levels of Thai headline inflation. In fact, the correlation between headline inflation in Thailand and global inflation is as high as 0.84. Much of this correlation is most likely due to oil prices, so we also study global oil prices as an important driver of firm inflation expectations in Thailand. We use the level of Dubai oil prices rather than the change as firm expectations may be more sensitive to the level itself. Other external variables examined include the change in the bilateral exchange rates between the Thai baht and the U.S. dollar.

Table 1: Summary Statistics

Variables	N	Mean	S.D.	Min	P25	P50	P75	Max
Global inflation	63,702	1.90	0.95	0.30	1.29	1.77	2.16	4.84
Dubai oil price	63,702	72.97	24.62	26.19	53.92	68.67	99.96	122.60
Oil supply news shock	63,702	-0.03	0.60	-1.92	-0.37	-0.04	0.36	1.44
Headline inflation	63,702	1.35	1.94	-3.44	0.11	1.06	2.42	7.86
Energy inflation	63,702	1.68	11.48	-29.31	-6.40	2.35	6.30	39.96
Raw food inflation	63,702	2.50	3.11	-4.32	0.04	2.46	4.81	10.98
Core inflation	63,702	1.06	0.76	-0.05	0.54	0.77	1.64	3.23
Core (food) inflation	63,702	2.37	2.30	0.44	0.94	1.17	3.32	8.85
Core (non-food) inflation	63,702	0.54	0.33	-0.44	0.35	0.56	0.78	1.28
GDP growth (%YoY)	63,702	2.39	3.75	-12.05	1.47	2.66	3.86	15.29
USD/THB (%YoY)	63,702	1.17	5.50	-10.44	-2.58	0.61	4.08	13.26
Minimum wage growth	63,590	5.16	11.53	-0.62	0.00	0.00	4.84	81.82
Labor intensity	62,878	0.12	0.06	0.02	0.09	0.10	0.19	0.42
Minimum-wage worker share	63,590	0.38	0.22	0.00	0.21	0.38	0.53	1.00

Note: Summary statistics based on the sample period 2012–2023.

3 Drivers of Firm Inflation Expectations

3.1 Empirical Specification

To investigate drivers of firm inflation expectations, we estimate the following panel specification:

$$\pi^{e}_{i,t} = \alpha + \beta X_{t-1} + \theta Z_{i,t} + W_i + \epsilon_{i,t}, \tag{1}$$

where $\pi^{e}_{i,t}$ is one-year-ahead inflation expectations of firm i at month t. X_{t-1} represents lagged macroeconomic drivers, which include Thailand's headline inflation rates and their components, real GDP growth rates, minimum wage growth, global inflation, the Dubai oil prices and changes in USD/THB exchange rates. We standardize all variables in X_{t-1} to be able to better compare the influence of the various macroeconomic variables on inflation expectations. $Z_{i,t}$ denotes time-varying firm-level variables that represent firms' views on their economic situation and input costs.

W_i is firm fixed-effects, which capture a firm's time-invariant characteristics, such as its size, sector and degree of export orientation.

3.2 Results

We aim to investigate key drivers of firm inflation expectations, starting first with the influence of macroeconomic variables. According to column 1 of the baseline results as shown in Table 2, we find that lagged headline inflation is a significant driver of firm inflation expectations. Its influence, however, is less than one-for-one, as a one-standard-deviation increase in lagged inflation (equivalent to a two percentage point change in headline inflation) raises firms' inflation expectations by around 0.6 percentage point. Among inflation components, the result in column 2 suggests that core inflation is one of the key drivers of inflation perceptions, although energy and raw food components also play a non-trivial role. This is not surprising since core inflation is most often viewed as a signal of the underlying trend that reflects future inflation. In column 3, the non-food inflation component in core inflation plays a more important role in driving inflation expectations.

Given that Thailand is a small open economy, it is not surprising that firm inflation expectations are influenced by global variables. In column 4, once we include Dubai oil prices and global inflation as explanatory variables, the importance of headline inflation is significantly diminished. The influence of global variables remains significant and large even when other macroeconomic variables such as Thailand's GDP growth rates, the USD/THB exchange rate and minimum wage growth rates are included in Column 5, while the role of headline inflation remains muted. We note that all macroeconomic variables have expected sign, such as a baht depreciation raises firms' expected inflation, as firms may anticipate some exchange rate pass-through into import and domestic price levels. Given that the minimum wage growth variable is also statistically significant, in Column 6 we also attempt to interact the minimum wage growth variable with the firm's labor intensity share which aims to capture the firm's exposure to minimum wage hikes. However, the interaction term turns out to be statistically insignificant.

The important role of macroeconomic drivers in the formation of Thai firms' inflation expectations echoes earlier findings in the literature. Most findings are on advanced countries, including the study by the Eurosystem workstream on inflation expectations (Baumann et al., 2021) and Galati et al. (2018), which find oil prices to be an important driver of firm inflation expectations in the Euro area. Household inflation expectations in the U.S. and Japan are driven by food and oil prices (Ueda, 2010). However, based on a cross-country panel study, Moessner (2021) finds that

domestic food prices are more important than energy CPI, and oil and global food prices in driving inflation expectations of professional forecasters across 34 OECD countries. While evidence of developing countries is more scarce, Patra and Ray (2010) find that lagged inflation, movements in food and fuel prices and the output gap are the main determinants of inflation expectations in India.

Aside from the influence of macroeconomic variables, we also investigate the role of firm perceptions on business turnover conditions and input costs in forming inflation expectations. As shown in Column 7, compared to the role of macroeconomic variables, firm-specific conditions play a weaker role. The only firm-level variable that is statistically significant is the firm's expectation on three-month-ahead input costs, which when included, replaces the significance of real GDP growth in driving firm inflation expectations. This stands in contrast to Ferrando et al. (2025), where the authors find that compared with other firm characteristics, firm views on turnover matter most for the formation of inflation expectations at both short and longer term horizons for the Euro area.[4]

Next, we examine whether the formation of inflation expectations varies across economic states and firm characteristics. Figure 4 shows the responses of firm inflation expectations to headline inflation, global inflation and Dubai oil prices across i) episodes of higher and lower inflation; ii) positive and negative output gaps; iii) trade orientation of firms; iv) firm size; and v) firm sector. Note that our threshold to separate lower and higher inflation episodes is at two percent.[5] Finally, the output gap is constructed by filtering real GDP by the Hodrick-Prescott filter.

As shown in Panels (a) and (b) of Figure 4, short-term inflation expectations of firms are more responsive to domestic inflation and Dubai oil prices during episodes of higher inflation and stronger economic growth. In this environment, firms may be able to more easily pass-through changes in input costs such as higher oil prices onto product prices—a mechanism that helps sustain inflationary pressures. On the other hand, with inflation expectations that are relatively insensitive to the economic environment in lower inflation episodes, firms' wage and price-setting behavior helps facilitate the self-stabilizing property of inflation such as low persistence and lim-

[4]The results in Table 2 are robust to a variety of checks as reported in the Appendix. First, we repeat the analyses on the full sample, with results as shown in Table A.4. Given that inflation expectations responses in the first part of the sample (pre 2012) are exact responses, we construct the dependent variable by taking the median values of each hypothetical one-percent bin interval that firms' exact responses fall within. Next, the baseline findings are robust to controlling for firms' learning effects, as shown in Table A.5.

[5]The median of Thai headline inflation over the sample studied is 1.35% and therefore a higher threshold would mean too few observations left in the higher inflation episode. The significance of the two-percent threshold is that it is the midpoint of the Bank of Thailand's current inflation range target at 1–3%.

Table 2: Drivers of Inflation Expectations

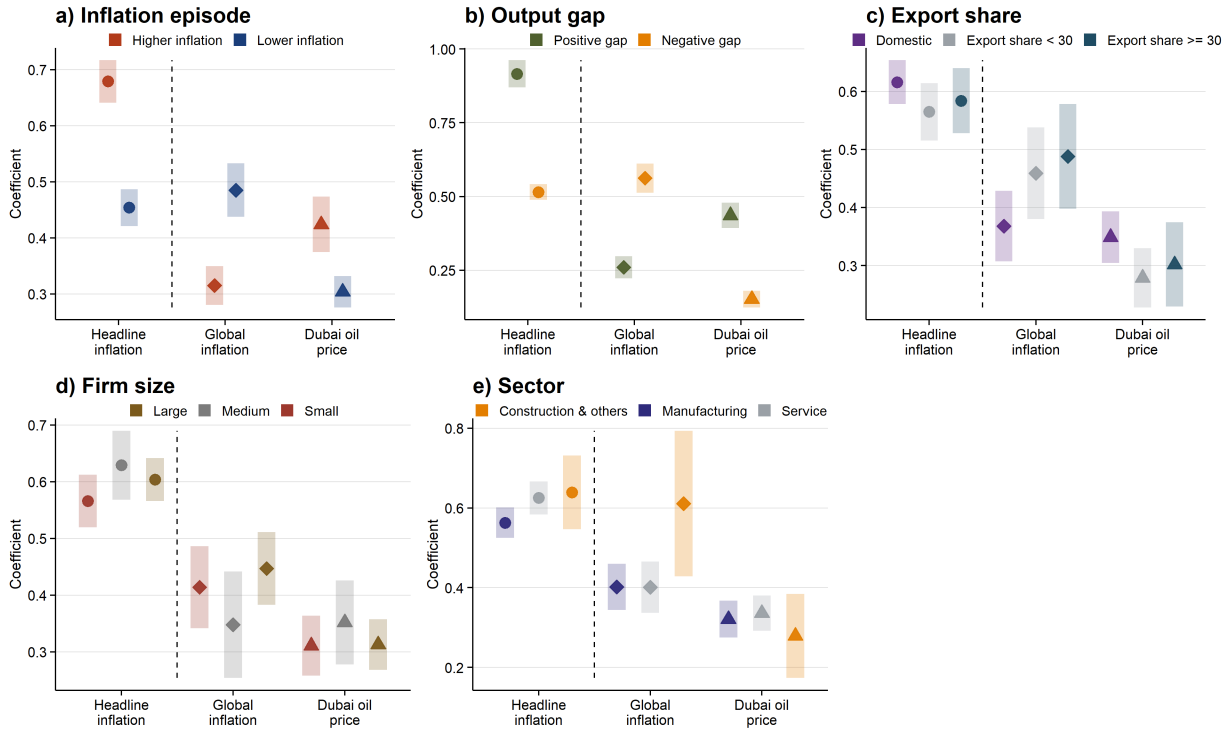
	Dependent variable: Midpoint of expected inflation range						
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Headline inflation	0.595***			0.029	-0.077*	-0.077*	-0.082*
	(0.026)			(0.023)	(0.024)	(0.024)	(0.022)
Energy inflation		0.172***	0.207***				
		(0.017)	(0.018)				
Raw food inflation		0.119***	0.120***				
		(0.004)	(0.004)				
Core inflation		0.495***					
		(0.016)					
Core (food) inflation			0.153***				
			(0.006)				
Core (non-food) inflation			0.256***				
			(0.010)				
Dubai oil price				0.324***	0.294***	0.294***	0.266***
				(0.008)	(0.007)	(0.007)	(0.014)
Global inflation				0.419***	0.467***	0.467***	0.484***
				(0.023)	(0.027)	(0.027)	(0.036)
GDP growth					0.080**	0.080**	0.066*
					(0.017)	(0.017)	(0.020)
Change in USD/THB exchange rate					0.100***	0.100***	0.082**
					(0.005)	(0.005)	(0.008)
Minimum wage growth					0.112***	0.096**	0.106***
					(0.007)	(0.010)	(0.009)
Minimum wage growth × Labor intensity						0.127	0.043
						(0.132)	(0.154)
Economic situation / turnover: Increase							-0.029
							(0.118)
Economic situation / turnover (next 3m): Increase							0.018
							(0.018)
Cost: Increase							0.039
							(0.026)
Cost (next 3m): Increase							0.175**
							(0.039)
Observations	62878	62878	62878	62878	62766	62766	49409
Adj. R-squared	0.480	0.510	0.513	0.521	0.530	0.530	0.543
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Displayed are results from the panel regression of firms' one-year-ahead expected inflation. Clustered standard errors are shown in parentheses. The sample period is from 2012–2023. Significance *** p<0.01, ** p<0.05, * p<0.1.

ited spillovers that has been ascribed to low inflation regimes (Borio et al., 2023).

Heterogeneity in the response of firm inflation expectations to aggregate inflation and Dubai oil prices is not as evident when examined across firms with different characteristics. In Panels (c)-(e), there is little variation in coefficients across sizes, sectors and degree of firm export orientation. One exception is that inflation expectations of firms with higher degrees of export share appear to respond more to global inflation compared to firms that have a relatively larger presence of trade in the domestic market. Overall, our results suggest that the aggregate macroeconomic environment appears to have a more important bearing on the firms' formation of inflation expectations, rather than being dependent on firm characteristics.

Figure 4: Heterogeneity in the Expected Inflation Response across Economic States and Firms



Note: Plotted are the coefficients from the panel regression of firms' one-year-ahead expected inflation on certain macroeconomic drivers across economic states and firms. The response to headline inflation is based on the specification in Column 1 of Table 2, while for global inflation and Dubai oil prices is based on Column 4, with interaction terms to denote lower and higher inflation episodes, positive and negative output gaps, and different types of firms based on their trade orientation, size and sectors. Shaded bands represent 90-percent confidence intervals.

4 Dynamic Shock Pass-Through to Inflation Expectations

Based on the findings in the previous section, short-term expectations of Thai firms are sensitive to aggregate macroeconomic factors. In this section, we further investigate the impact of macroeconomic shocks on inflation expectations, but focus on analyzing the dynamic effects of well-identified exogenous shocks. This helps avoid potential endogeneity concerns, but investigating the dynamic impact of shocks is also a critical step towards obtaining a better understanding about how well firms' inflation expectations are anchored. This is because while firm expectations can be highly sensitive to macroeconomic shocks, they can still be well-anchored given that those effects are short-lived.

We analyze both a global and domestic exogenous shock on firm inflation expectations. Given the importance of global oil prices on inflation expectation formation, we study the propagation of an oil supply news shock as identified by Känzig (2021). For the domestic shock, we leverage the large and unexpected minimum wage hike events in Thailand.

4.1 Global Oil Supply News Shock

4.1.1 Data and Empirical Methodology

We rely on the following local projection model to trace the dynamic effects of oil supply news shocks onto firm inflation expectations.

$$\pi^{e}_{i,t+h} = \delta_h \pi^{e}_{i,t-1} + \gamma_h \varepsilon^{oil}_{t} + \beta_h X_{t-1} + W_i + \epsilon_{i,t+h}, \tag{2}$$

where ε^{oil}_{t} represents the structural oil supply news shocks. X_{t-1} are macroeconomic control variables that include Thailand's headline inflation and GDP growth, global inflation, and changes in USD/THB exchange rates. W_i denotes firm fixed effects.

To identify the oil supply news shock, we utilize the series as constructed by Känzig (2021). This novel series is identified based on institutional features of OPEC and information content contained within high frequency data. In particular, oil supply surprises are measured based on changes in spot crude oil future prices within tight windows around OPEC production announcement days. In doing so, this ensures that the surprise series are exogenous, and do not contain information about other global economic factors such as demand or geopolitical developments. After computing the oil supply surprise series, Känzig (2021) identifies structural oil supply news shocks based

on using the surprise series as an external instrument within an oil-market VAR model.

As firms may respond to the oil supply news shock differently based on the inflation environment or how attentive they are to oil prices, we interact the oil supply news shock with dummy variables that signify lower and higher inflation episodes based on a threshold of 2%, as well as a firm-level oil-attentive variable. The latter is calculated from firm responses in the survey, based on whether they frequently listed oil or energy prices as an important factor that influenced their inflation expectations. In this survey question, firms can also pick from six other choices including labor costs, good demand, exchange rates, financial costs, raw material or rent costs and other factor to be specified by firms. But, for firms to be oil attentive, they must list energy prices as their top choice for at least 40% of their provided answers in the sample.

4.1.2 Empirical Findings

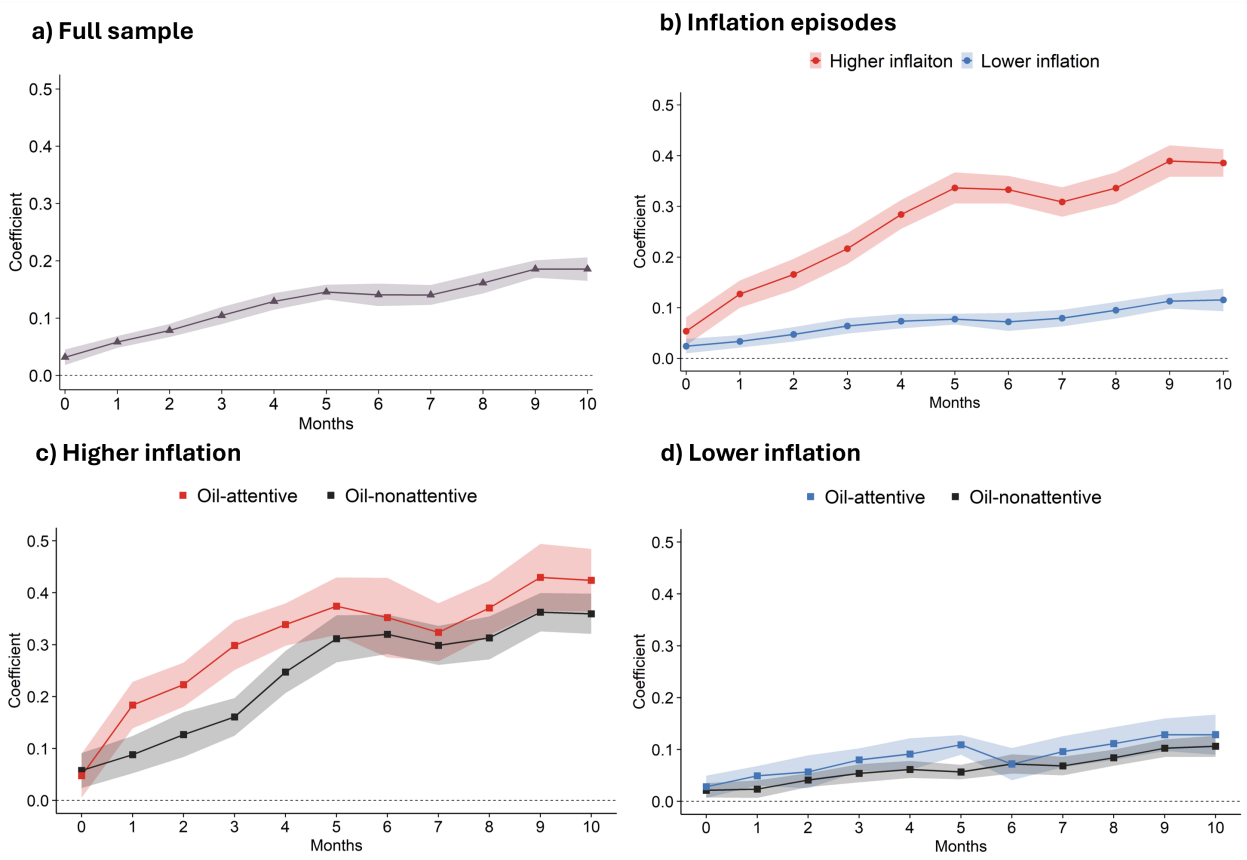
In Figure 5, we show the estimated local projection results over a 10-month horizon. Focusing on Panel (a), the impact of the oil supply news shock appears to be rather persistent on firms' inflation expectations. The estimated impact is significant and increases over time, and does not stabilize until 5–6 months after the initial impact of the shock. As shown in Panel (b), this result is largely driven by firm responses in higher inflation periods, as the response of firm expectations to an oil shock is significantly higher and more persistent when inflation exceeds 2 percent. This suggests that firms become more attentive to salient shocks such as oil prices in a higher inflation environment, leaving rather long-lasting impact on firm inflation expectations.

Our results support the growing literature that emphasizes that inattention of private agents is dependent on, and even an endogenous response to, the economic environment. Many studies show that attention to current inflation levels is higher when inflation rises (Bracha and Tang, 2025; Korenok et al., 2022; Pfäuti, 2025). In Weber et al. (2025), the authors conduct a sequence of randomized controlled trials in the U.S., Euro area, Uruguay and New Zealand, providing robust evidence that in higher inflation environments, private agents become significantly less sensitive to information treatments, particularly to those about recent inflation rates, as they are already highly attentive to the macroeconomic environment. Therefore, that we find firms to be highly attentive to publicly available information such as oil supply news shocks in a higher inflation environments provides strong support for this line of literature.

Finally, we examine whether inflation expectations of oil-attentive firms respond more to an oil news shock. In Panel (c) of Figure 5, we find that the responses of oil-attentive firms are some-

what stronger than firms that are non-attentive to oil prices, especially in the first 5 months after the initial impact of the oil supply news shock. Surprisingly, however, responses of attentive and non-attentive firms do not differ significantly. This result underscores the importance of oil price developments as a salient factor that influences overall firm inflation expectations, especially for an oil importing country such as Thailand with also a high degree of energy intensity.

Figure 5: Effects of An Oil Supply News Shock on Inflation Expectations



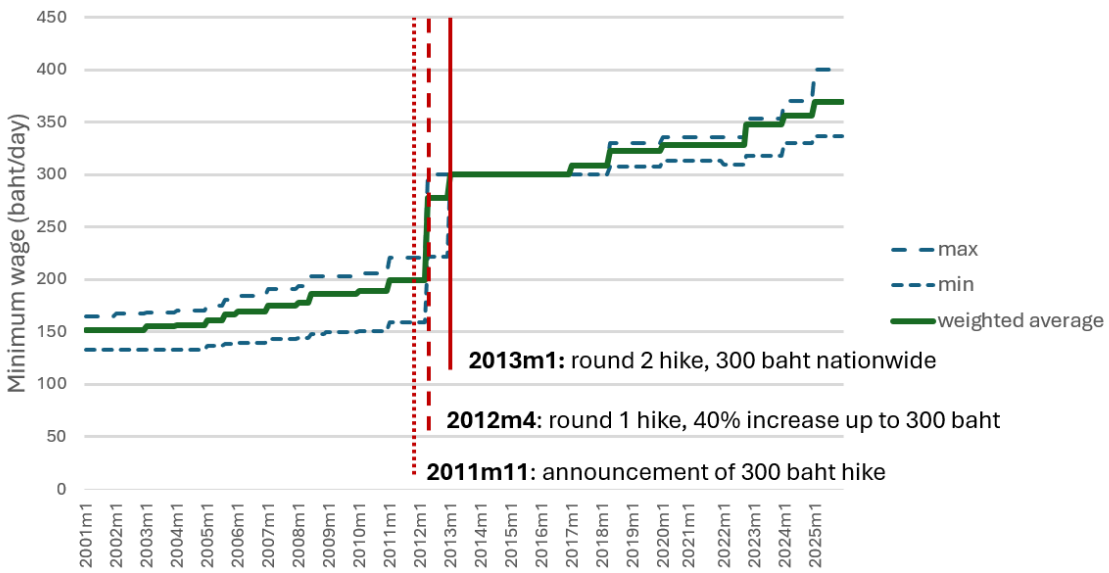
Note: Displayed are local projection results that investigate the impact of an oil supply news shock on firms' expected inflation over the 12-month horizon, along with 90-percent confidence intervals. Panel (a) show results for the full sample based on estimating Eq.2, while panel (b) show results based on interaction terms which investigates how the impact of an oil shock differs across lower and higher inflation episodes. In panels (c) and (d), we investigate the responses across inflation episodes for oil attentive and non-attentive firms. The sample period spans 2012–2023.

4.2 Local Minimum Wage Hike Shock

4.2.1 Data and Empirical Methodology

To examine the impact of a minimum wage shock on firms' inflation expectations, we identify the shock from the minimum wage hike that occurred during 2012–2013 in Thailand. During this time, Thailand implemented a statutory minimum wage increase of up to 40%, raising the rate to 300 baht per day nationwide. This is considered as a large and unexpected increase since typically the minimum wage in Thailand is set to gradually increase over time.[6] To implement the rate hike, the minimum wage policy was announced in November 2011 and scheduled in two phases: the first in April 2012, applying a 40% increase in most provinces (except seven provinces where the rate would have exceeded 300 baht), and the second round in January 2013, standardizing the minimum wage at 300 baht across provinces. The timeline is illustrated as shown in Figure 6.

Figure 6: Minimum Wage in Thailand from 2001 to 2025



Note: Plotted are the maximum, minimum and weighted-average minimum wage, in baht per day, across provinces in Thailand, where the number of formal employees in each province in 2011 (pre 300-baht hike) are used as weights.

To capture the heterogeneous exposure of firms to the minimum wage policy, we construct an exposure variable, $FA_{s,p}$, representing the fraction of workers affected by the wage hike at the ISIC

[6] The minimum wage in Thailand is set as a daily rate and varies by province. It is typically determined by a tripartite provincial wage committee, which considers factors such as local productivity, price levels, and overall economic conditions.

5-digit $\times$province level. This variable serves as a proxy for firm-level exposure due to data limitations. Although the policy was implemented nationwide, it introduced substantial and uneven labor cost shocks across sectors and regions. $FA_{s,p}$ is constructed using social security data from the pre-policy period (January to October 2011), which allows us to measure the impact intensity based on the initial distribution of workers across industries and provinces. While our samples are mostly concentrated in Bangkok and vicinity, there are still sizable variations in labor intensity across industries. As shown in Table 1, the mean of $FA_{s,p}$ is 0.38 with a standard deviation of 0.22, confirming substantial variation in exposure.

In addition to the sector–province–level wage exposure measure, we construct a firm-level indicator of attention to labor costs. Specifically, the survey asks firms to identify the top factors driving their expected cost of production over the next 12 months. We classify firms as *wage-attentive* if they list labor costs among the top three drivers in more than 50% of their survey responses, and as *non-wage-attentive* otherwise. Other cost factors in the survey that firms can choose from include raw material prices, energy prices, rents, capital costs (interest rates), exchange rates, demand conditions, and costs of other inputs.

The effect of the minimum wage shock on firm inflation expectations is studied through the exposure variable over four phases covering the period January 2011–December 2013: six months in the pre-announcement baseline (T_0: 2011m5–2011m10) in which no wage hikes yet occurred, the announcement phase (T_A: 2011m11–2012m3), the post–round 1 period (T_{R1}: 2012m4–2012m12), and one year post–round 2 period (T_{R2}: 2013m1–2013m12). The absence of further adjustments in the three years following the 300-baht hike makes this time frame well-suited for analyzing both the immediate and short-term effects of the policy on expectation, and other economic outcomes.

Turning to the empirical specification, we relate firms' inflation expectations to their exposure to the minimum wage hike through the following difference-in-differences (DID) equation:

$$\begin{aligned}\pi^{e}_{i,t} = &\sum_{j} \beta^{A}_{j} FA_{s,p} \times WageAttention_{j} \times 1\{t \in T_A\} + ... \\ &\sum_{j} \beta^{R1}_{j} FA_{s,p} \times WageAttention_{j} \times 1\{t \in T_{R1}\} + ... \\ &\sum_{j} \beta^{R2}_{j} FA_{s,p} \times WageAttention_{j} \times 1\{t \in T_{R2}\} + ... \\ &+ \sum_{j} \delta_{j} FA_{s,p} \times WageAttention_{j} + \alpha^{A} T_A + \alpha^{R1} T_{R1} + \alpha^{R2} T_{R2} + \beta X_{t-1} + \gamma W_i (+\lambda_t) + \epsilon_{i,t},\end{aligned} \tag{3}$$

where, given that firm i operates in sector s and province p, the variable $FA_{s,p}$ denotes the fraction of workers earning below the minimum wage threshold (300 baht) in sector s and province p during the pre-announcement period (T_0). The dummy variable $WageAttention_j$ classifies firms as wage-attentive or non-wage-attentive. The treatment effects (β_j^A, β_j^{R1}, β_j^{R2}) capture the response impacts across the various phases, with standard errors clustered at the province–industry level. Time-invariant firm characteristics, including region, sector and trade orientation, are included to account for firm-specific heterogeneity, while lagged macroeconomic variables or month fixed effects are used to control for changes in macroeconomic conditions during that period.

In addition to the DID specification above, we also estimate the following dynamic event-study specification to assess pre-trends, anticipatory behavior, and persistence of the treatment effects relative to the timing of the wage hikes:

$$\pi_{i,t}^{e} = \sum_{\tau \neq -1} \sum_{j} \beta_j^{\tau} FA_{s,p} \times WageAttention_j \times 1\{t = \tau\} + \beta X_{t-1} + \gamma W_i (+\lambda_t) + \epsilon_{i,t}, \qquad (4)$$

where τ denotes the number of months relative to the hike announcement for each firm ($\tau = 0$ in 2011m11). Note that we omit $\tau = -1$ that is used as the reference period. Controlling for firm characteristics, this specification allows us to assess the temporal dynamics of inflation expectations before and after the wage adjustments.

4.2.2 Empirical Findings

The estimation results from the DID specification are reported in Table 3. We report the findings from several specifications in Columns 1–5, where for robustness purposes, we gradually introduce firm fixed effects, firm characteristics and month fixed effects in the empirical specification. Notice that we add interaction terms that differentiate firms by their minimum wage worker share as well as their level of wage attention to examine potential heterogeneity in firm responses to the minimum-wage shock.

Several observations from our estimation results are as follows. First, we find positive coefficients on TA (post-announcement period), $TR1$ (post–round-1 hike), and $TR2$ (post–round-2 hike), which capture the aggregate temporal effects. This indicates that firms' inflation expectations tend to be higher following the minimum-wage hike announcement than in the pre-announcement period. The larger coefficient estimate on $TR1$ implies that increases in inflation expectations are largest following the first round of the minimum wage hike.

Next, we find that in most specifications, firms with high minimum-wage exposure and greater wage attention exhibit a statistically significant increase in inflation expectations following the policy announcement. However, inflation expectation responses in the post round-1 and round-2 hikes are not statistically significant. This implies that while the minimum wage shock can impact firm expectations, particularly firms with higher share of minimum wage exposure and wage attention, the impact is only short-lasting after the announcement.

Wage attention is an important factor that drives heterogeneity in the results. Overall, the inflation-expectation response of wage non-attentive firms do not appear to significantly respond to a minimum wage shock. Note that in the specification without firm controls (Model 1), the responses are negative and statistically significant on the $TR1$ and $TR2$ coefficients with interaction terms. However, these effects attenuate and lose their statistical significance as firm characteristics, firm fixed effects, and monthly fixed effects are added to the empirical specifications. This suggests that firm-specific or other time-varying factors may be correlated with the minimum-wage exposure variable, FA_{sp}, and the statistical significance on the $TR1$ and $TR2$ coefficients in Model 1 may merely be a spurious result of this correlation rather than reflecting sustained responses of inflation expectations to minimum wage hikes for wage non-attentive firms.

Turning to the dynamic event-study results, Figure 7a shows that following the minimum-wage policy announcement, firms with higher minimum-wage exposure adjust their inflation expectations by more than less exposed firms. This response, however, varies by wage-attention. Among wage-attentive, high-exposure firms, the increase in expected inflation following the minimum-wage shock is statistically significant and lasts for a four- to five-month window after the announcement is made. The impact is quite persistent as it lasts even after the round 1 minimum wage hike is implemented. By contrast, for high-exposure firms that are not wage-attentive, the response is only short-lived. Following the minimum-wage announcement, the response is limited to only one to two months, before it becomes statistically insignificant. For the round 2 minimum wage hike, we do not observe statistically significant responses in firms' inflation expectations, even for wage-attentive firms.

These baseline estimates are based on Eq. 4, which controls for firm fixed-effects but excludes time fixed effects. As a robustness check, we include monthly fixed effects and report the results in Figure 7b. As shown, the estimated impacts are further attenuated from the baseline results. The responses of firms' inflation expectations are positive and statistically significant only for highly exposed, wage-attentive firms in the first month after the announcement. Also, we find that once

time fixed effects are controlled for, the inflation expectation responses are not statistically significant after both rounds of wage hikes.

Overall, our results indicate that the nationwide minimum-wage policy generates an increase in inflation expectations across firms, where these firm responses are strong enough to generate an aggregate effect. Against this aggregate response, firms with high minimum-wage exposure and greater wage attention robustly revise their inflation expectations upward at the announcement stage, reflecting that firms have heightened sensitivity to wage-related news. However, inflation expectation responses during the subsequent implementation phases are not statistically significant, suggesting that firms primarily update inflation expectations in anticipation of the policy rather than in response to realized wage hikes.

5 Firm Inflation Expectations and Business Decisions

5.1 Empirical specification

In this section, we aim to analyze whether firms' inflation expectations matter for their business decisions, which include price-setting as well as decisions to invest and hire workers. In doing so, we adopt a two-step regression approach.[7] The first-stage regression specification is as shown below:

$$\begin{aligned}\pi^{e}_{i,t} =& \gamma_0 \pi^{e}_{i,t-1} + \sum_{p=0}^{1} \sum_{j} \sum_{h} \gamma_1^{j,h,p} (\varepsilon^{oil}_{t-p} \times \text{Oil Attention}_j \times \text{Inflation Episode}_{h,t}) \\ &+ \gamma_2 X_{t-1} + \gamma_3 Z_{i,t} + \gamma_4 W_i + v_{it},\end{aligned} \tag{5}$$

where firm-level inflation expectations ($\pi^{e}_{i,t}$) are instrumented by the exogenous oil supply news shock as constructed by Känzig (2021). As shown in the above specification, the oil supply news shocks are interacted with two sets of dummy variables that aim to allow for additional variations in firms' inflation expectations to the oil news shock. As firms could react differently to an oil news shock based on their attention to oil prices, we include the dummy variable Oil Attention$_j$, which is constructed based on each firm's ranking of oil prices as a factor in forming firm's inflation expectations and classifies firms as being oil-attentive or oil-nonattentive. The second dummy variable Inflation Episode$_{h,t}$, helps capture any across-time variation in the inflation expectation response,

[7] This methodology helps address any endogeneity issues that may arise, as it is likely that economic conditions may simultaneously impact both firms' inflation expectations and business decisions.

Table 3: Difference-in-Differences Results: Minimum Wage Hike and Inflation Expectations

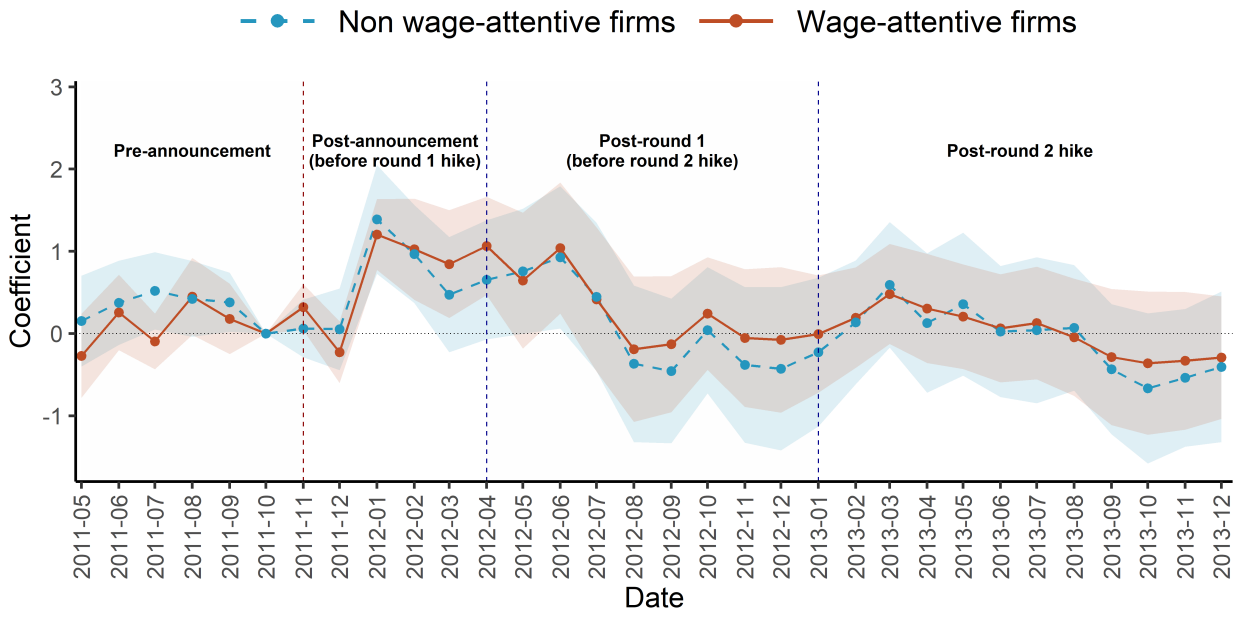
	Dependent variable: expected inflation (midpoint of the range)				
Variables	**1**	**2**	**3**	**4**	**5**
MW worker share	-0.368***	-0.445			
× wage-attentive firm	(0.132)	(0.416)			
MW worker share	-0.282**	-0.338			
× non-wage-attentive firm	(0.142)	(0.373)			
TA	0.559***	0.519***	0.552***		
	(0.111)	(0.067)	(0.078)		
TR1	0.781***	0.724***	0.803***		
	(0.135)	(0.206)	(0.216)		
TR2	0.483***	0.436**	0.518***		
	(0.126)	(0.173)	(0.192)		
MW worker share × TA	0.345*	0.434***	0.335*	0.032	0.343**
× wage-attentive firm	(0.201)	(0.153)	(0.168)	(0.317)	(0.164)
MW worker share × TR1	0.142	0.276	0.047	-0.139	0.055
× wage-attentive firm	(0.174)	(0.440)	(0.460)	(0.459)	(0.457)
MW worker share × TR2	0.044	0.148	-0.139	-0.261	-0.126
× wage-attentive firm	(0.165)	(0.367)	(0.374)	(0.410)	(0.375)
MW worker share × TA	-0.053	0.164	-0.011	-0.084	0.046
× non-wage-attentive firm	(0.223)	(0.192)	(0.174)	(0.312)	(0.171)
MW worker share × TR1	-0.394**	-0.140	-0.409	-0.446	-0.388
× non-wage-attentive firm	(0.192)	(0.448)	(0.479)	(0.503)	(0.481)
MW worker share × TR2	-0.407**	-0.164	-0.461	-0.464	-0.433
× non-wage-attentive firm	(0.183)	(0.388)	(0.456)	(0.437)	(0.464)
Headline inflation	-0.320***	-0.317***	-0.318***		
	(0.071)	(0.061)	(0.077)		
Global inflation	-0.144**	-0.150***	-0.143***		
	(0.067)	(0.049)	(0.051)		
GDP growth	0.075***	0.076***	0.066***		
	(0.017)	(0.011)	(0.006)		
Change in USD/THB exchange rate	-0.164***	-0.168***	-0.185***		
	(0.042)	(0.029)	(0.041)		
Dubai oil price	0.572***	0.564***	0.560***		
	(0.067)	(0.043)	(0.045)		
Observations	15,126	14,806	14,806	14,806	14,806
Adj. R-squared	0.062	0.073	0.467	0.082	0.477
Month fixed effects	No	No	No	Yes	Yes
Firm characteristics	No	Yes	No	Yes	No
Firm fixed effects	No	No	Yes	No	Yes

Note: Displayed are results from the difference-in-differences estimation, with firms' one-year-ahead expected inflation as the dependent variable. Clustered standard errors are shown in parentheses. The sample period is from 2011M5–2013M12. Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

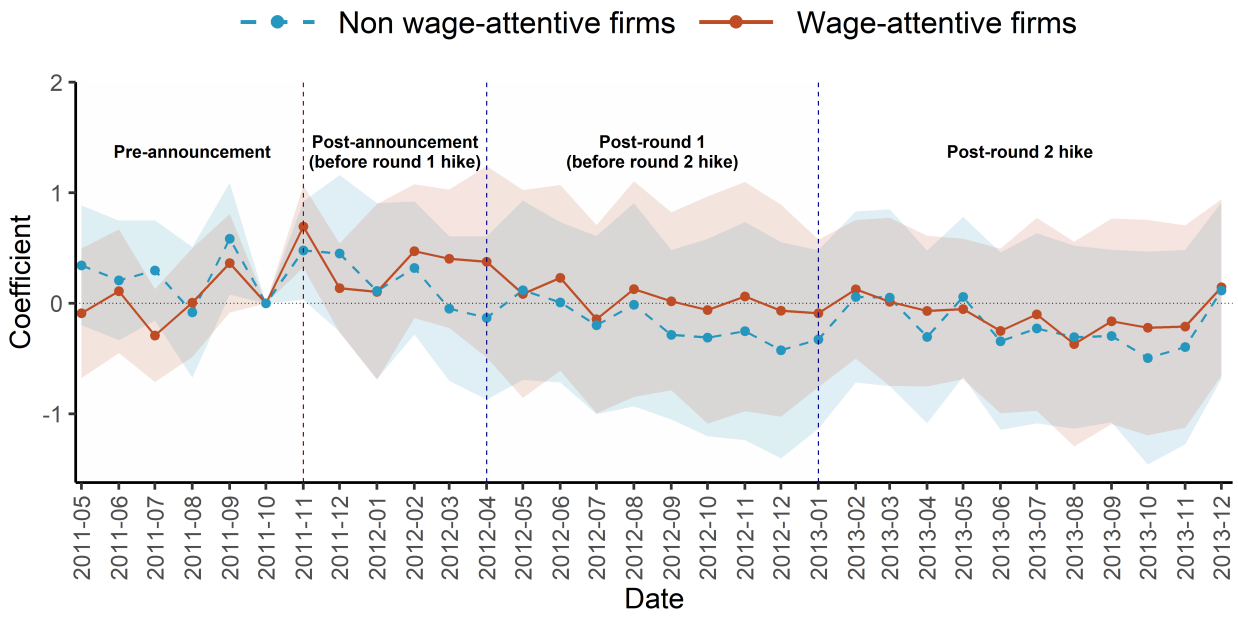
which could behave differently during different inflation episodes of being lower or higher than 2%.

Other independent variables in the first-stage regression include the one-month lag of oil supply news shock, which helps capture the potentially delayed effect of the shock on inflation expectations. We also control for the influence of macroeconomic outcomes in X_{t-1}, which may potentially influence both inflation expectations and other firm decisions. Finally, we include $Z_{i,t}$ to directly control for firm-specific time-varying variables, such as their outlook on costs and demand conditions, their view on current and near-term business turnover, their current and three-month-ahead

Figure 7: Event-study estimates of minimum wage hike



(**a**) Minimum-wage hike event-study estimates without monthly fixed effects



(**b**) Minimum-wage hike event-study estimates with monthly fixed effects

Note: Displayed are results from the dynamic difference-in-differences estimation based on Eq.4, along with 90-percent confidence intervals. The specifications control for macroeconomic variables and include firm fixed effects. The sample period is from 2011M5–2013M12.

production costs, as well as their current and expected new orders. Firm time-invariant characteristics are included as well in W_i, which captures firm size, trade orientation, region and industry (2-digit ISIC).

By instrumenting firms' inflation expectations with global oil supply shock while including standard fixed effects and controlling directly for cost and demand conditions using firm-level covariates in the first stage regression, the instrument is interpreted as an information shock that shifts beliefs about future inflation rather than directly affecting firms' own marginal costs or demand. In other words, conditional on these firm-level cost and demand controls together with standard fixed effects, oil news shocks influence pricing only through their impact on overall inflation expectations. In Figure 8, we show that oil price movements can in fact serve this capacity as being an important information variable for firm inflation expectations. According to the scatter plot, each data point represents each firm's share of responses that indicate energy prices to be a top factor towards the formation of inflation expectations versus being considered as a key input cost for production. Most data points lie above the 45 degree line, implying that energy price movements crucially matter towards the formation of a firm's inflation expectations rather than being a factor that only directly affects its own production costs. This evidence is consistent with many studies that emphasize that salient role of oil for firm inflation expectations.

In the second stage regression, we then use the instrumented inflation expectations variable $\hat{\pi}^e_{i,t}$ to investigate how firms' inflation expectations influence firms' business decisions. The second-stage regression is specified as follows:

$$Y_{i,t+h} = c + \beta\hat{\pi}^e_{i,t} + \delta X_{t-1} + \theta Z_{i,t} + \alpha W_i + \epsilon_{i,t}, \tag{6}$$

where $Y_{i,t+h}$ captures each firm's business decisions. This is based on various indicators of whether firm i increases (or maintains/ or lowers) its product prices, investment, or employment over the next six months ($h = \{0, 1, ..., 6\}$). As is standard, we also include the same sets of controls as in the first-stage regression, which include lagged macroeconomic variables, time-varying firm-specific variables and time-invariant firm-level characteristics. In particular, the inclusion of firm-level control variables which include firms' outlook on input cost pressures in the second-stage regression, should help disentangle the portion of the oil shock impact on inflation that is working through the direct cost pass-through channel of firms versus through the inflation expectations channel.

Figure 8: The Role of Energy Prices for Firm Inflation Expectations vs. Own Cost Expectations

Note: Each data point in the plot above represents the share of a given firm's monthly responses over the full sample (in percent) that indicate energy prices to be the most important factor in forming inflation expectations (y-axis) and expectations over its own production costs.

Finally, we estimate the first- and second-stage specifications as described above based on panel OLS and panel ordinal logistic regressions. Results for the first-stage regression are reported in Table A.6 in the Appendix, where the coefficients on the instruments are positive, and in most cases, statistically significant.

5.2 Empirical Findings

In this section, we discuss the estimated impact of instrumented inflation expectations on firm decision variables over a six-month horizon. Firm decision variables include price-setting, investment, and hiring decisions, and a positive coefficient on these variables indicate that firms increase their selling prices, capital expenditures, or employment, relative to levels in the previous month, respectively. Baseline results are displayed in the top row of Figure 9. We also repeat the exercise across periods of higher and lower inflation episodes, as well as across economic states, with results shown in the middle and bottom rows respectively.[8]

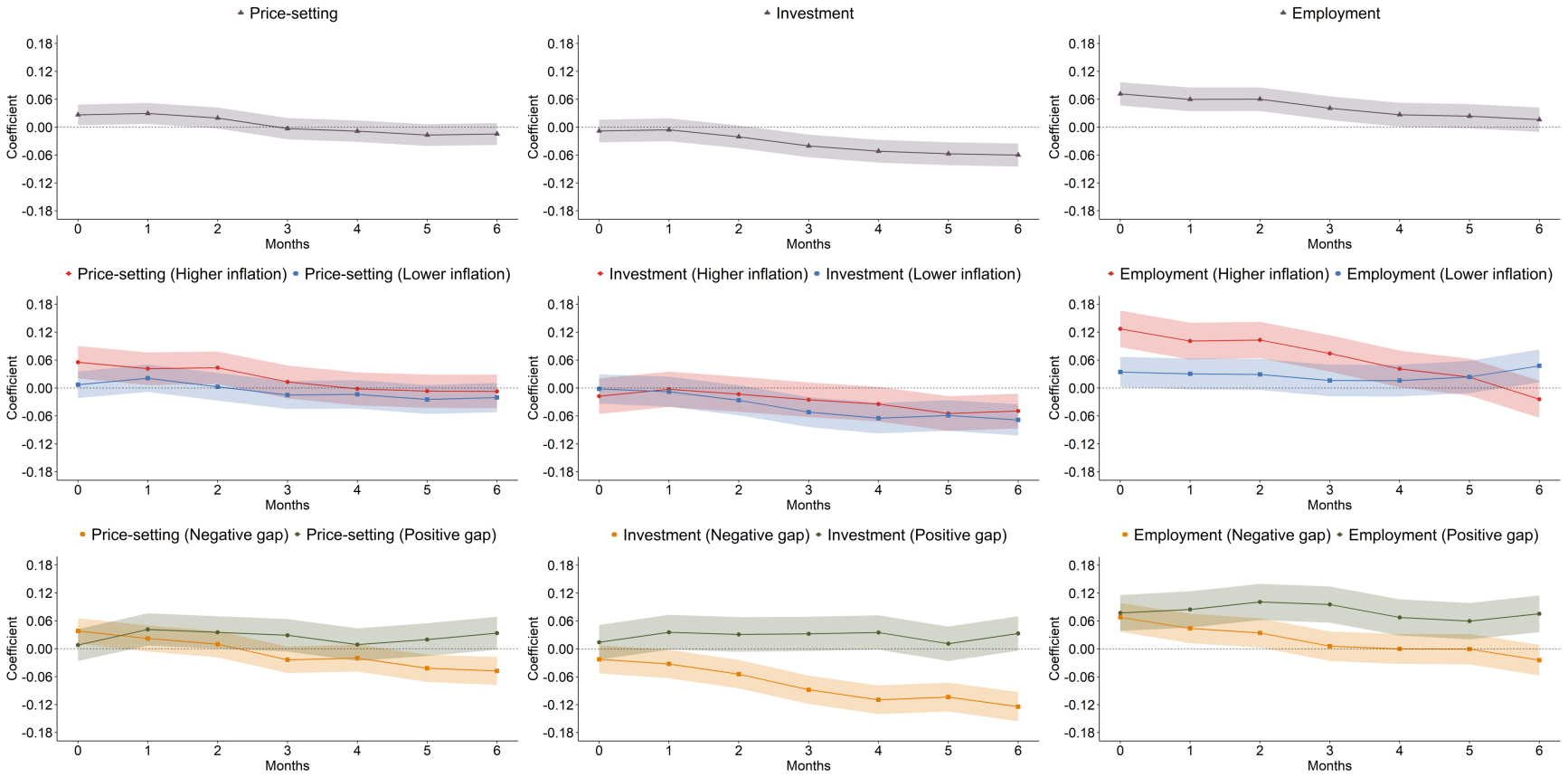
[8]In the Appendix, Tables A.7–A.9 report estimated coefficients of instrumented versus non-instrumented inflation expectations from the second-stage regression for the first two horizons. Also, note that in the baseline results, due

According to the baseline results, Figure 9 shows that increased inflation expectations lead firms to raise their product prices and hire more workers. The impact lasts for two and three months for price-setting and employment decisions, respectively. The change in the price-setting behavior is intuitive, and consistent with Coibion et al. (2020). The positive impact that inflation expectations may have on employment may be less standard, but could be explained by a real wage effect, where higher anticipated inflation lowers firms' real labor costs. In addition, the estimated positive relationship may be capturing employment recoveries during the aftermath of the global financial crisis and the COVID-19 pandemic. This happened to coincide with an oil price rebound in 2020 which may have been responsible for an increase in inflation expectations.

Meanwhile, an increase in inflation expectations does not lead to any immediate impact on firms' investment behavior, but instead generates a rather delayed negative impact after three months. Our results are broadly consistent with Coibion et al. (2018) and Coibion et al. (2020) based on RCTs, who show that higher expected inflation leads firms in New Zealand and Italy to cut investment. These two papers investigate the impact of inflation expectations on other firm behavior as well, and in contrast to our study, they find negative effects from an increase in inflation expectations on firm employment.

to the incidental-parameters problem, we cannot include firm fixed effects in the second stage when using an ordinal regression framework. As a robustness check, we therefore re-estimate the model using a two-stage least squares (2SLS) approach, treating the second stage as a linear probability model and including firm fixed effects. The results remain robust to the inclusion of firm fixed effects under the 2SLS specification, as shown in Figure A.1 in the Appendix.

Figure 9: Effects of Inflation Expectations on Firm Decisions



Note: Displayed are results of the panel ordinal logistic regression of firms' price-setting, investment and hiring decisions over the six-month horizon on firms' inflation expectations that are instrumented by oil supply news shocks. The baseline results from Eq.6 are displayed in the top row, while the middle row shows the differential impacts across higher versus lower inflation episodes. The bottom row shows the results across positive versus negative output gap states. Shaded bands denote 90-percent confidence intervals. The sample period spans 2012–2023.

Next, we examine whether firms' business decisions may vary across different levels of inflation and economic states by including interaction terms on the inflation expectations variables. First, we find evidence that that the impact of inflation expectations on firm decisions are highly regime-dependent when examined across different inflation episodes. More specifically, the influence of firms' inflation expectations on their price-setting behavior is significant when inflation is higher than 2 percent, while the influence is negligible when inflation is lower. This finding is consistent with earlier findings that firms become more attentive to inflation developments during higher-inflation periods. Similarly, firms increase employment by more during the higher inflation episode, as in the lower-inflation episode, the positive employment response is only weakly significant upon impact, and turns out to be statistically insignificant thereafter. For the investment response, however, we do not observe significant differences in firm responses across higher and lower inflation episodes.

We also find that firm responses hinge upon the economic state, particularly for investment behavior. While the investment responses do not vary depending on the level of inflation, higher inflation expectations tend to lead to lower levels of investment only during periods of a negative output gap. Meanwhile, firms raise investment when output gaps are positive, but the estimated coefficients are found to be either weakly significant or insignificant. This is intuitive, as an increase in inflation expectations when the economy is weak signals a stagflationary environment. As a result, increases in expected inflation may be viewed as primarily a cost-push shock, leading to uncertainty and the postponement of irreversible investment decisions. Conversely, an increase in firm inflation expectations in a strong growth environment signals robust demand and future profitability, thus encouraging immediate capital expenditure.

We find some evidence of heterogeneity in firm employment and price-setting responses across economic states as well. During positive output gap periods, an increase in firm inflation expectations is associated with a more prolonged increase in employment, plausibly driven by buoyant demand expectations. Finally, although the short-run effects on firm price-setting behavior do not significantly differ across lower versus higher inflation episodes, in the medium run (after 5–6 months) we find that firms tend to reverse their initial price increases if growth is subdued.

On a final note, the main threat to our IV estimation lies within a potential violation of the exclusion restriction. Such a violation would arise if the oil-shock instrument affects firms' pricing, investment, or employment decisions through channels other than inflation expectations that are not fully captured by our controls. Although our specification already includes firm-level variables

capturing cost conditions and demand outlook, residual effects may remain. One likely source of violation is the cost channel: as a net oil-importing economy, a positive oil shock raises firms' non-labor operating costs. For example, if this cost increase directly feeds into pricing, the IV estimate for the effect of inflation expectation on pricing would be upwardly biased (an upper bound). Conversely, if higher costs reduce cash flow, depressing investment, the IV estimate for the effect on investment would be downwardly biased (a lower bound). Nonetheless, the theoretical impact of oil price shocks on investment and employment remains ambiguous–short-run cost pressures may reduce spending, while longer-run substitution toward energy-efficient capital or cheaper labor may offset these effects.

Comparing the IV and non-IV estimates for price-setting provides a useful diagnostic. Both coefficients have the same sign and similar magnitudes (0.027 for $t = 0$, and 0.03 vs. 0.018 for $t = 1$; see Table A.7), and their differences are not statistically significant given the standard errors. Since any violation of the exclusion restriction through the cost channel would bias the IV estimate upward, the close similarity between the two suggests that such bias is limited and that the price-setting results are robust to endogeneity concerns. For investment and employment, where the potential bias from the oil-price instrument is theoretically ambiguous, we refrain from making strong directional inferences. Yet the estimates, which share the same sign and are similar in magnitude, are reassuring.

6 Conclusion

This paper provides new evidence on the drivers of one-year-ahead inflation expectations of firms in Thailand based on a rich survey dataset that spans 2012–2023. Firms' inflation expectations — while biased and highly dispersed — respond systematically to macroeconomic conditions, especially global factors such as oil prices and global inflation. Firm-level conditions and characteristics such as size, sector and export orientation matter relatively less for expectations formation when compared to aggregate macroeconomic conditions.

An important finding is that the behavior of firms' inflation expectations and their dynamic response to macroeconomic shocks crucially depend upon the prevailing state of the economy as well as the level of inflation. Firm expectations become more sensitive to headline inflation and global factors when the output gap is positive and during episodes of higher inflation. Firms are more attentive when inflation is high, particularly to salient shocks such as an oil supply news

shock that exerts a sizable and persistent effect on inflation expectations. Local cost shocks such as the 2012–2013 minimum wage hike, on the other hand, appear to have only short-lived effects on firm inflation expectations.

Firms' price-setting, hiring and investment decisions are also shaped by inflation expectations. Higher expected inflation raises firms' selling prices and hiring decisions, while having delayed, negative effects on firms' investment behavior. However, the role of inflation expectations on firms' business decisions depends crucially on the state of the macroeconomy. Higher inflation expectations only positively affect firms' price-setting and employment decisions in a significant manner only during higher inflation episodes, while causing firms to scale back their investment amidst weak growth. Overall, our findings suggest that firm inflation expectations can serve as a powerful channel that can amplify or dampen macroeconomic fluctuations.

References

Aguilar, A., R. Guerra, and B. Martinez (2024, October). Global inflation, inflation expectations and central banks in emerging markets. BIS Working Papers 1217, Bank for International Settlements.

Baumann, U., M. Darracq Paries, T. Westermann, M. Riggi, E. Bobeica, A. Meyler, B. Böninghausen, F. Fritzer, R. Trezzi, and J. a. Jonckheere (2021, Sep). Inflation expectations and their role in eurosystem forecasting. Occasional Paper Series 264, European Central Bank.

Baumann, U., A. Ferrando, D. Georgarakos, Y. Gorodnichenko, and T. Reinelt (2024, Jun). Safe to update inflation expectations? new survey evidence on euro area firms. Working Paper Series 2949, European Central Bank.

Borio, C., M. J. Lombardi, J. Yetman, and E. Zakrajsek (2023, June). *The two-regime view of inflation* (None ed.), Volume None of *BIS Papers*. Bank for International Settlements.

Bracha, A. and J. Tang (2025, None). Inflation levels and (in)attention. *The Review of Economic Studies 92*(3), 1564–1594.

Candia, B., O. Coibion, and Y. Gorodnichenko (2024). The inflation expectations of U.S. firms: Evidence from a new survey. *Journal of Monetary Economics 145*(S).

Coibion, O., Y. Gorodnichenko, and S. Kumar (2018, September). How Do Firms Form Their Expectations? New Survey Evidence. *American Economic Review 108*(9), 2671–2713.

Coibion, O., Y. Gorodnichenko, and T. Ropele (2020). Inflation Expectations and Firm Decisions: New Causal Evidence. *The Quarterly Journal of Economics 135*(1), 165–219.

Ferrando, A., S. Lamboglia, and J. Rariga (2025, None). Determinants of inflation expectations of firms in the safe. *Economic Bulletin Boxes 4*(None), None.

Galati, G., Z. Gorgi, R. Moessner, and C. Zhou (2018, None). Deflation risk in the euro area and central bank credibility. *Economics Letters 167*(C), 124–126.

Gautier, E., F. Savignac, and O. Coibion (2025, May). Firms' inflation and wage expectations during the inflation surge. NBER Working Papers 33799, National Bureau of Economic Research, Inc.

Korenok, O., D. Munro, and J. Chen (2022). Inflation and attention thresholds. GLO Discussion Paper Series 1175, Global Labor Organization (GLO).

Kose, M. A., H. Matsuoka, U. Panizza, and D. Vorisek (2019, March). Inflation Expectations: Review and Evidence. Koç University-TUSIAD Economic Research Forum Working Papers 1904, Koc University-TUSIAD Economic Research Forum.

Kumar, S., H. Afrouzi, O. Coibion, and Y. Gorodnichenko (2015). Inflation Targeting Does Not Anchor Inflation Expectations: Evidence from Firms in New Zealand. *Brookings Papers on Economic Activity 46*(2 (Fall)), 151–225.

Känzig, D. R. (2021, April). The Macroeconomic Effects of Oil Supply News: Evidence from OPEC Announcements. *American Economic Review 111*(4), 1092–1125.

Mello, M. and J. Ponce (2025). From global energy price shocks to firms' inflation expectations. *Latin American Journal of Central Banking*, 100168.

Moessner, R. (2021). Determinants of inflation expectations. CESifo Working Paper Series 9485, CESifo.

Patra, M. D. and P. Ray (2010, Apr). Inflation expectations and monetary policy in india: An empirical exploration. IMF Working Papers 2010/084, International Monetary Fund.

Pfäuti, O. (2025, August). Inflation–who cares? monetary policy in times of low attention. *Journal of Money, Credit and Banking 57*(5), 1211–1239.

Savignac, F., E. Gautier, Y. Gorodnichenko, and O. Coibion (2024). Firms' Inflation Expectations: New Evidence from France. *Journal of the European Economic Association 22*(6), 2748–2781.

Ueda, K. (2010, December). Determinants of households' inflation expectations in japan and the united states. *Journal of the Japanese and International Economies 24*(4), 503–518.

Weber, M., B. Candia, H. Afrouzi, T. Ropele, R. Lluberas, S. Frache, B. Meyer, S. Kumar, Y. Gorodnichenko, D. Georgarakos, O. Coibion, and Geoff (2025, January). Tell me something i don't already know: Learning in lowâ€□ and highâ€□inflation settings. *Econometrica 93*(1), 229–264.

Wehrhöfer, N. (2023). Energy prices and inflation expectations: Evidence from households and firms. Discussion Papers 28/2023, Deutsche Bundesbank.

Appendix

A Additional Empirical Results

Table A.4: Drivers of Inflation Expectations (Robustness Check 1)

	Dependent variable: Midpoint of expected inflation range						
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Headline inflation	0.548***	0.548***		0.084*	-0.046	-0.046	-0.054
	(0.033)	(0.033)		(0.024)	(0.024)	(0.024)	(0.024)
Energy inflation		0.185**	0.171**	0.171**			
		(0.020)	(0.023)	(0.023)			
Raw food inflation		-0.064**	-0.026	-0.026			
		(0.011)	(0.009)	(0.009)			
Core inflation		0.529***	0.529***				
		(0.017)	(0.017)				
Core (food) inflation			0.145***	0.145***			
			(0.004)	(0.004)			
Core (non-food) inflation			0.335***	0.335***			
			(0.024)	(0.024)			
Dubai oil price				0.331***	0.305***	0.305***	0.280***
				(0.015)	(0.013)	(0.013)	(0.010)
Global inflation				0.303***	0.380***	0.380***	0.395***
				(0.014)	(0.021)	(0.021)	(0.027)
GDP growth (%YoY)					0.131**	0.131**	0.121**
					(0.017)	(0.017)	(0.018)
Lagged USD/THB (%YoY)					0.198***	0.198***	0.189***
					(0.007)	(0.007)	(0.009)
Minimum wage growth (%YoY)					0.120***	0.097**	0.100**
					(0.008)	(0.013)	(0.010)
Minimum wage growth × Labor intensity						0.189	0.186
						(0.100)	(0.083)
Economic situation / Business turnover: Increase							-0.033
							(0.076)
Economic situation / Business turnover (next 3m): Increase							0.037
							(0.018)
Cost: Increase							0.059
							(0.042)
Cost (next 3m): Increase							0.133*
							(0.033)
Observations	78261	78261	78261	78261	78141	78141	62449
Adj. R-squared	0.365	0.388	0.387	0.394	0.415	0.415	0.426
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Significance: *** p<0.01, ** p<0.05, * p<0.1. This Table shows results from panel regression of firms' one-year-ahead expected inflation over the 2008–2023 sample. For the sample before 2012, the dependent variable is the midpoint of the one-percent inflation range a firm's exact-figure response falls within. Clustered standard errors are shown in parentheses.

Table A.5: Drivers of Inflation Expectations (Robustness Check 2)

	Dependent variable: Midpoint of expected inflation range						
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Headline inflation	0.599***	0.599***			-0.008	-0.063***	-0.072***
	(0.014)	(0.014)			(0.021)	(0.023)	(0.026)
Energy inflation		0.189***	0.208***	0.208***			
		(0.012)	(0.012)	(0.012)			
Raw food inflation		0.118***	0.119***	0.119***			
		(0.009)	(0.009)	(0.009)			
Core inflation		0.477***	0.477***				
		(0.017)	(0.017)				
Core (food) inflation			0.153***	0.153***			
			(0.006)	(0.006)			
Core (non-food) inflation			0.252***	0.252***			
			(0.013)	(0.013)			
Dubai oil price				0.185***	0.189***	0.191***	0.172***
				(0.013)	(0.012)	(0.012)	(0.013)
Global inflation				0.583***	0.579***	0.580***	0.589***
				(0.029)	(0.028)	(0.028)	(0.032)
GDP growth (%YoY)					0.038***	0.037***	0.027**
					(0.010)	(0.010)	(0.011)
USD/THB (%YoY)					0.065***	0.065***	0.051***
					(0.011)	(0.011)	(0.012)
Minimum wage growth (%YoY)					0.083***	0.067***	0.075***
					(0.010)	(0.023)	(0.025)
Minimum wage growth × Labor intensity						0.153	0.085
						(0.151)	(0.192)
Economic situation / Business turnover: Increase							-0.045
							(0.054)
Economic situation / Business turnover (next 3m): Increase							0.011
							(0.023)
Cost: Increase							0.056*
							(0.029)
Cost (next 3m): Increase							0.173***
							(0.031)
Cumulative answers	-0.200***	-0.079***	-0.002	-0.292***	-0.232***	-0.237***	-0.220***
	(0.029)	(0.030)	(0.030)	(0.028)	(0.028)	(0.028)	(0.031)
Observations	63702	63702	63702	63702	63590	62766	49409
Adj. R-squared	0.490	0.514	0.515	0.535	0.538	0.536	0.548
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Significance: *** p<0.01, ** p<0.05, * p<0.1. This table reports results from panel regressions of firms' one-year-ahead inflation expectations, based on the specification that includes cumulative answers as a control to account for panel learning effects. Clustered standard errors are reported in parentheses. The sample period covers 2012–-2023.

Table A.6: First-stage regression: Drivers of firm inflation expectations

	Dependent variable: Midpoint of expected inflation range	
Variables	**1**	**2**
Lagged inflation expectation	0.810***	0.687***
	(0.003)	(0.010)
Lagged headline inflation	0.079***	0.081***
	(0.009)	(0.010)
Lagged global inflation	0.053***	0.122***
	(0.008)	(0.011)
Lagged MPI growth (% YoY)	-0.004	-0.005
	(0.006)	(0.006)
Lagged GDP growth (% YoY)	0.023***	0.032***
	(0.006)	(0.006)
Lagged USD/THB (% YoY)	0.014***	0.016***
	(0.004)	(0.005)
Economic situation / turnover: Increase	-0.011	-0.014
	(0.018)	(0.025)
Economic situation / turnover (next 3m): Increase	0.027**	0.028**
	(0.011)	(0.012)
Cost: Increase	-0.002	0.009
	(0.010)	(0.012)
Cost (next 3m): Increase	0.076***	0.088***
	(0.010)	(0.012)
Purchasing order: Increase	0.026**	0.026**
	(0.010)	(0.012)
Purchasing order (next 3m): Increase	-0.026**	-0.030**
	(0.011)	(0.013)
Oil news shocks × Oil-attentive firm × Higher inflation	0.028	0.013
	(0.021)	(0.026)
Oil news shocks × Oil-nonattentive firm × Higher inflation	0.019	0.020
	(0.017)	(0.020)
Oil news shocks × Oil-attentive firm × Lower inflation	0.026**	0.026**
	(0.012)	(0.012)
Oil news shocks × Oil-nonattentive firm × Lower inflation	0.018*	0.015
	(0.010)	(0.010)
Lagged oil news shocks × Oil-attentive firm × Higher inflation	0.097***	0.069***
	(0.021)	(0.024)
Lagged oil news shocks × Oil-nonattentive firm × Higher inflation	0.061***	0.056***
	(0.017)	(0.020)
Lagged oil news shocks × Oil-attentive firm × Lower inflation	0.035***	0.039***
	(0.012)	(0.012)
Lagged oil news shocks × Oil-nonattentive firm × Lower inflation	0.002	-0.001
	(0.010)	(0.009)
Observations	41,356	41,356
Adj. R-squared	0.740	0.756
Firm characteristics	Yes	No
Firm fixed effects	No	Yes

Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.7: Effects of Inflation Expectations on Firm Decisions

	Price-setting				Investment				Employment			
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
	$h=0$	$h=0$	$h=1$	$h=1$	$h=0$	$h=0$	$h=1$	$h=1$	$h=0$	$h=0$	$h=1$	$h=1$
Instrumented inflation expectation	0.027**		0.030**		-0.008		-0.006		0.072***		0.060***	
	(0.013)		(0.014)		(0.015)		(0.015)		(0.015)		(0.016)	
Inflation expectation		0.027**		0.018		-0.010		-0.005		0.057***		0.063***
		(0.013)		(0.013)		(0.014)		(0.015)		(0.015)		(0.015)
Lagged MPI growth (% YoY)	0.051***	0.048***	0.049***	0.048***	0.013	0.036*	0.037*	0.029	0.013	0.012	0.036*	0.034*
	(0.017)	(0.017)	(0.017)	(0.017)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Lagged GDP growth (% YoY)	-0.004	-0.016	-0.007	-0.019	0.055***	0.012	0.017	0.008	0.087***	0.084***	0.051**	0.041**
	(0.018)	(0.018)	(0.018)	(0.018)	(0.019)	(0.019)	(0.020)	(0.019)	(0.020)	(0.020)	(0.020)	(0.020)
Lagged USD/THB (% YoY)	-0.017	-0.018	-0.015	-0.014	-0.047***	-0.041***	-0.041***	-0.025*	0.027*	0.031**	0.045***	0.047***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)
Observations	40,502	36,069	40,819	36,335	39,898	40,216	35,506	35,775	40,722	41,037	36,276	36,542
RMSE	1.41	1.45	1.41	1.45	1.48	1.47	1.51	1.51	1.36	1.36	1.38	1.38
Firm-level controls												
Time-varying	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time-invariant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Displayed are results of the panel ordinal logistic regression of firms' price-setting, investment and hiring decisions on firms' inflation expectations that are instrumented by oil supply news shocks, compared with un-instrumented inflation expectations. The sample period spans 2012-–2023.

Table A.8: Effects of Inflation Expectations on Firm Decisions by Inflation Episodes

	Price-setting				Investment				Employment			
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
	$h=0$	$h=0$	$h=1$	$h=1$	$h=0$	$h=0$	$h=1$	$h=1$	$h=0$	$h=0$	$h=1$	$h=1$
Instrumented Inflation Expectation× Higher inflation	0.055*** (0.021)		0.042* (0.021)		-0.017 (0.023)		-0.003 (0.023)		0.127*** (0.024)		0.101*** (0.024)	
Instrumented Inflation Expectation× Lower inflation	0.007 (0.017)		0.021 (0.018)		-0.002 (0.019)		-0.008 (0.020)		0.035* (0.020)		0.031 (0.020)	
Inflation Expectation × Higher inflation		0.062*** (0.021)		0.038* (0.021)		-0.015 (0.023)		-0.014 (0.023)		0.107*** (0.024)		0.106*** (0.024)
Inflation Expectation × Lower inflation		0.004 (0.017)		0.005 (0.017)		-0.007 (0.018)		0.001 (0.019)		0.025 (0.019)		0.034* (0.020)
Lagged MPI growth (% YoY)	0.051*** (0.017)	0.049*** (0.017)	0.048*** (0.017)	0.048*** (0.017)	0.013 (0.019)	0.012 (0.019)	0.037* (0.019)	0.036* (0.019)	0.014 (0.019)	0.035* (0.019)	0.036* (0.019)	0.000 (0.020)
Lagged gdp growth (% YoY)	-0.005 (0.018)	-0.008 (0.018)	-0.017 (0.018)	-0.020 (0.018)	0.055*** (0.019)	0.056*** (0.019)	0.016 (0.020)	0.013 (0.019)	0.085*** (0.020)	0.040** (0.020)	0.049** (0.020)	0.054*** (0.020)
Lagged USD/THB (% YoY)	-0.020 (0.013)	-0.018 (0.013)	-0.019 (0.013)	-0.016 (0.013)	-0.046*** (0.014)	-0.047*** (0.014)	-0.041*** (0.014)	-0.040*** (0.014)	0.022 (0.015)	0.043*** (0.015)	0.041*** (0.015)	0.052*** (0.015)
Observations	40,502	40,819	36,069	36,335	39,898	40,216	35,506	35,775	40,722	41,037	36,276	36,542
RMSE	1.41	1.41	1.45	1.45	1.48	1.47	1.51	1.51	1.36	1.36	1.38	1.38
Firm-level controls												
Time-varying	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time-invariant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

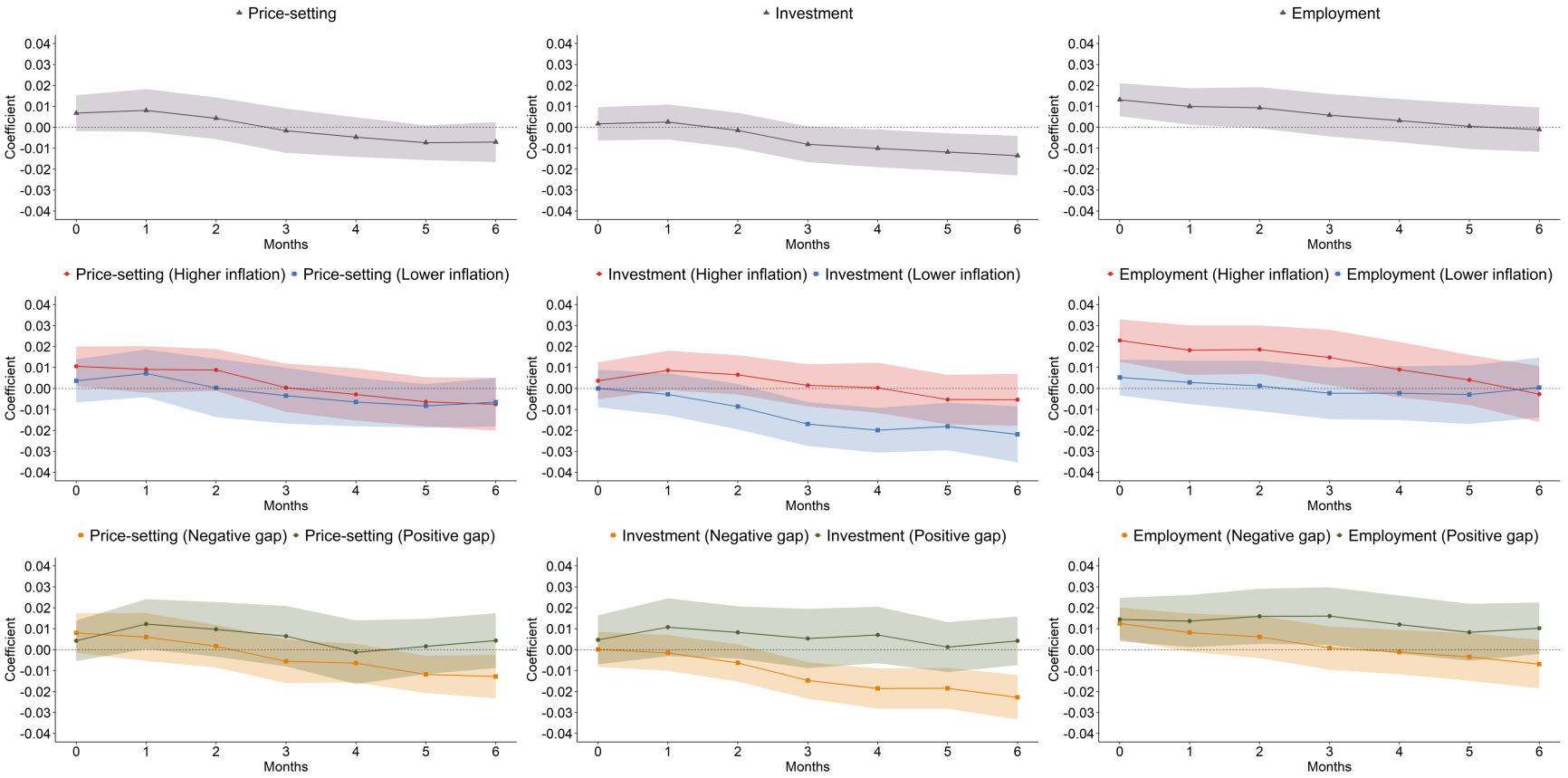
Note: Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Displayed are results of the panel ordinal logistic regression of firms' price-setting, investment and hiring decisions on firms' inflation expectations that are instrumented by oil supply news shocks, compared with un-instrumented inflation expectations. We consider their differential effects across higher and lower inflation episodes. The sample period spans 2012-–2023.

Table A.9: Effects of Inflation Expectations on Firm Decisions by Economic States

	Price-setting				Investment				Employment			
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
	$h=0$	$h=0$	$h=1$	$h=1$	$h=0$	$h=0$	$h=1$	$h=1$	$h=0$	$h=0$	$h=1$	$h=1$
Instrumented Inflation Expectation× Positive gap	0.008		0.041**		0.014		0.036		0.077***		0.085***	
	(0.021)		(0.021)		(0.023)		(0.023)		(0.023)		(0.024)	
Instrumented Inflation Expectation× Negative gap	0.038**		0.022		-0.022		-0.032*		0.068***		0.044**	
	(0.017)		(0.017)		(0.018)		(0.019)		(0.019)		(0.019)	
Inflation Expectation × Positive gap		0.003		0.029		0.008		0.042*		0.041*		0.079***
		(0.020)		(0.021)		(0.022)		(0.022)		(0.023)		(0.023)
Inflation Expectation × Negative gap		0.042**		0.011		-0.023		-0.037**		0.067***		0.053***
		(0.017)		(0.017)		(0.018)		(0.019)		(0.019)		(0.019)
Lagged MPI growth (% YoY)	0.052***	0.051***	0.047***	0.047***	0.011	0.010	0.033*	0.032*	0.012	0.014	0.033*	0.033*
	(0.017)	(0.017)	(0.017)	(0.017)	(0.019)	(0.019)	(0.019)	(0.019)	(0.020)	(0.020)	(0.020)	(0.019)
Lagged gdp growth (% YoY)	-0.005	-0.008	-0.016	-0.019	0.056***	0.057***	-0.040***	0.015	0.087***	0.083***	0.052**	0.042**
	(0.018)	(0.018)	(0.018)	(0.018)	(0.019)	(0.019)	(0.014)	(0.019)	(0.020)	(0.020)	(0.020)	(0.020)
Lagged USD/THB (% YoY)	-0.017	-0.015	-0.018	-0.014	-0.047***	-0.047***		-0.041***	0.027*	0.032**	0.045***	0.047***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.014)	(0.014)		(0.014)	(0.014)	(0.014)	(0.015)	(0.015)
Observations	40,502	40,819	36,069	36,335	39,898	40,216	35,506	35,775	40,722	41,037	36,276	36,542
RMSE	1.41	1.41	1.45	1.45	1.48	1.47	1.51	1.51	1.36	1.36	1.38	1.38
Firm-level controls												
Time-varying	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time-invariant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Displayed are results of the panel ordinal logistic regression of firms' price-setting, investment and hiring decisions on firms' inflation expectations that are instrumented by oil supply news shocks, compared with un-instrumented inflation expectations. We consider their differential effects across periods of positive and negative output gaps. The sample period spans 2012-–2023.

Figure A.1: Effects of Inflation Expectations on Firm Decisions (Robustness Check)



Note: Displayed are results of the panel OLS regression of firms' price-setting, investment and hiring decisions on firms' inflation expectations that are instrumented by oil supply news shocks. Firms' price-setting, investment, and employment decisions are assigned the value of −1 for a decrease, 0 for no change, and +1 for an increase. The specification include firm fixed effects to replace time-invariant firm characteristics in every regression. The baseline results from Eq.6 are displayed in the top row, while the middle row shows the differential impacts across higher versus lower inflation episodes. The bottom row shows the results across positive versus negative output gap states. Shaded bands denote 90-percent confidence intervals. The sample period spans 2012–2023.